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DESCRIPTIONS OF NEW BEES COLLECTED BY MR. H. H. SMITH IN
BRAZIL.—II.

BY T. D. A. COCKERELL.

Lithurgus corumbæ n. sp.

♀.—Length 7 mm., black; with silvery-white pubescence, dense on the face (except the elevated portion, which is bare) and cheeks; rather dense on metathorax (except basal area and middle of sides) and pleura; hind margin of prothorax, and tubercles, edged with dense white hair, forming a conspicuous white line; lateral hind margins of abdominal segments 1 to 3, and the whole hind margins of 4 and 5, with snow-white hair-bands; apical segment of abdomen, and dark parts of the two previous segments, with some short black hair, but it is very inconspicuous, and there is no apical fimbria; ventral scopa white, tinged with ferruginous on the fifth segment; legs with white hair, that on hind tarsi long and slightly ferruginous; femora, and basal two segments of abdomen, dark ferruginous; facial eminence rather low but distinct, obscurely bituberculate; head and thorax strongly and densely punctured; antennæ short, flagellum stout, and obscurely brown beneath; tegulæ dark reddish-brown; wings brownish, nervures and stigma piceous; hind tibiæ with numerous short spines on the outer side, as usual in the genus; spurs white.

Hab.—Corumbá, April. This is the smallest *Lithurgus* I have ever seen, but *L. rufipes* Sm., from South Africa, is nearly as small. The genus is new to the fauna of Brazil. The stigma of *L. corumbæ* is somewhat larger than is usual in the genus. The marginal cell is shaped as in the North American and European species, not acutely pointed as in the Indian *L. atratus* Sm.

Ceratina maculifrons Smith, 1853.

Chapada, January. 1 ♀.—Length $6\frac{1}{2}$ mm.; differs from Smith's description by having no yellow on the four posterior tibiæ, the sides of the metathorax having no white pubescence, and the hind femora having an apical tooth or projection. The peculiar face-markings, the tooth on the outer side of the hind tibia near

the base, etc., are as described by Smith, and I have little doubt that the identification is correct. Smith's description reads as if the thorax were yellow, but of course this was not intended. A different *Ceratina*, also taken at Chapada (in December), is apparently the undescribed ♀ of *C. viridula* Sm. It is a brilliant insect, and the face is without light markings.

Temnosoma metallicum Smith, var. *chapadæ*, n. var.

♀.—Differs from Smith's description of *metallicum* by the larger size (about $8\frac{1}{2}$ mm.); mandibles green at base; scape green; mesothorax closely and more or less confluent punctured; wings little iridescent, not noticeably clouded at apex; tarsi practically black, basal joint of hind tarsi green; abdomen with purple reflections, basal margin of second and third segments brilliant purple. Enclosure of metathorax sculptured as Smith describes for *metallicum*.

♂.— $7\frac{1}{2}$ mm. long, similar to the ♀, abdomen with scarcely any purple.

Hab.—Chapada, March, ♂ and ♀; also in November. Probably a valid species, but I leave it as a variety until I can compare it with authentic material of *T. metallicum*.

The following table will facilitate the determination of *Temnosoma*:

Abdomen impunctate, ...	<i>T. lævigatum</i> Sm.
Abdomen punctate, ...	1.
1. Margin of metathoracic enclosure smooth, ...	<i>T. æruginosum</i> Sm.
Margin of metathoracic enclosure transversely striate, ...	2.
2. Wings smoky (Mexico), ...	<i>T. smaragdinum</i> Sm.
Wings almost clear (Brazil), ...	<i>T. metallicum</i> Sm. and var. <i>chapadæ</i> Ckll.

T. smaragdinum occurs as far north as San Rafael, Vera Cruz, Mexico, where Townsend took it at flowers of *Cordia*, at the end of June.

Corynura atromarginata n. sp.

♀.—Length $8\frac{1}{2}$ mm., dull from the excessively close punctures; black; lateral projections of prothorax, hind margin of mesothorax very narrowly, postscutellum and metathorax, greenish; sides of basal segment of abdomen and extreme base of second segment also green; clypeus prominent, with rather sparse large punctures on a tessellated surface; mandibles long and dark; antennæ dark,

scape long, flagellum brownish beneath and delicately pubescent; tegulæ very dark brown; base of metathorax with oblique radiating striæ; wings hyaline, the costal margin, including the marginal cell, very broadly dark fuliginous (as in some Tachinidæ); legs very dark reddish-brown; abdomen with long white hairs beneath; punctures of first dorsal segment of abdomen stronger and less dense than on second, which has the punctures minute and as close as is possible; hind spur of hind tibia pectinate, with three large teeth.

Hab.—Chapada, March and April; five specimens. Very close to the Mexican *C. discolor* (Smith), thus adding another to the now rather numerous instances of Brazilian bees representative of, but not identical with, those of Mexico or the adjacent parts of the United States.

This might be held to differ subgenerically from the type of *Corynura*, but in that case *Cacosoma* Smith is not available, because of the prior *Cacosoma* Felder, 1874.

C. atromarginata is one of five species flying at Chapada, all having the first recurrent nervure interstitial with the second transverso-cubital, and the mesothorax very densely punctured.

These species are readily distinguished as follows:

Costa fuliginous from base to marginal cell,

atromarginata n. sp., ♀.

Costa not fuliginous from the base, or not at all, ... 1.

1. Abdomen long and narrow, clavate, like *Baccha clavata*, ... 2.

Abdomen oval or suboval, hardly or not clavate, ... 3.

2. Head and thorax bright golden-green, *pseudobaccha* n. sp., ♂.

Head and thorax dark, suffused with olive-green,

jucunda (Smith), ♂.

3. Marginal cell fuliginous, ... *semimarginata* n. sp., ♀.

Tip of wing only fuliginous, ... *chapadicola* n. sp., ♀.

Corynura jucunda (Smith); n. syn. *C. ænigma* (Gribodo).

Hab.—Chapada, December; 2 ♂. So far as I can make out, *C. jucunda* and *ænigma* are the same and identical with the insect now before me. This gives it a range from S. Paulo and Chapada, Brazil, to Rioja, Argentine Republic, the extremes being about 1,250 miles apart. In view of what Sichel states about the two sexes of *Corynura*, it seems likely that *C. semimarginata* or *C. chapadicola* may prove to be the ♀ of *C. jucunda*, but as I have no proof of this, I treat both for the present as distinct.

Corynura pseudobaccha n. sp.

♂.—Length about 8 mm.; size and form of *C. jucunda*, but easily distinguished by its very brilliant golden-green head and thorax; the green of the abdomen also is bright, occupying the sides of the first segment, the bases of the second, third, and most of the fourth and fifth segments. Clypeus very prominent, with large punctures on a shining surface; cheeks and sides of face with short white hair; antennæ very long, flagellum ferruginous beneath; tegulæ bright reddish-testaceous; wings dusky at tips; nervures and stigma very dark brown; second submarginal cell narrow; femora and tibiæ green; knees, ends of tibiæ and all of tarsi light ferruginous.

Hab.—Chapada, January and November; 3 ♂.

Corynura semimarginata n. sp.

♀.—Length about 8 mm.; rather robust, black with green on sides of face, hind edge of mesothorax, scutellum, postscutellum, upper parts of metathorax, and basal portions of the abdominal segments; first abdominal segment subpetiolate, decidedly longer than broad, bright ferruginous at its extreme base; antennæ dark, scape long, red-brown; wings with the marginal cell and beyond fuliginous, stigma and nervures dark brown; second submarginal cell not so narrow as in the last species; inner lower angle of third submarginal less than a right angle, whereas in *pseudobaccha* it is quite a right angle; basal area of metathorax with oblique radiating striæ, and some transverse ones posteriorly, recalling the sculpture of *Temnosoma metallicum*; first abdominal segment with sparse weak punctures, second finely rugulose with close minute punctures; hind spur of hind tibia pectinate with large teeth.

Hab.—Chapada, April and November; 2 ♀. Allied to *C. agile* (Smith).

Corynura chapadiicola n. sp.

♀.—Length about 8 mm.; robust, black, sides of face and hind margin of mesothorax very narrowly dark green; legs very dark reddish-brown, with the pubescence mostly black or nearly so; abdomen with the first two segments black, the extreme base of the second green, the remaining segments golden green, largely covered with very fine appressed yellowish pubescence, with black bristles intermixed; antennæ dark brown, flagellum ferruginous at

extreme tip; tegulae very dark brown; wings hyaline, apex fuliginous; nervures and stigma sepia-brown; clypeus with large, sparse punctures on a tessellate surface; mesothorax microscopically tessellate, dull, with numerous minute punctures and scattered black hairs; basal area of metathorax not defined, with feeble oblique striae; lower inner angle of third submarginal cell less than a right angle; most of basal segment of abdomen smooth and shining, but its apical portion and all of second segment rough and minutely sculptured; under side of abdomen with long yellowish-white hair; hind spur of hind tibia pectinate, with three large blunt teeth. The basal segment of the abdomen is broader than long, thus much broader than in the last species.

Hab.—Chapada, January, March, September, November, December; 33 specimens. The middle of the third abdominal segment is often black. This species evidently belongs with *Corynura*; but, at least in the ♀, it has the abdomen formed as in *Augochlora*. The maxillary palpi have six subequal joints, the first two stout, the third subtriangular.

In all the species of *Corynura* the anterior part of the mesothorax overlaps the middle of the prothorax, and in *C. chapadicola* this is particularly well marked, the projecting portion being bilobed.

CORYNUROPSIS n. subg.

First recurrent nervure received by second submarginal cell before its end; mesothorax smooth and shining, with strong very sparse punctures, its anterior margin prominently overlapping prothorax; hind spur of hind tibia of ♀ pectinate with large teeth.

Type, *C. darwini* n. sp.

Corynura (*Corynuropsis*) *darwini* n. sp.

♀.—Length about 7 mm.; head circular, a trifle broader than thorax, dark yellowish-green, eyes emarginate; sides of face with appressed pale plumose hair; clypeus short, it and the supraclypeal area with numerous very large punctures; ocelli small and close together; front densely and closely punctured; labrum binodulose; mandibles ferruginous at apex; mesothorax shining, purple-black, with large sparse punctures; parapsidal grooves very deep; other parts of thorax dark green; pleura with thin white pubescence; base of metathorax smooth and shining, with a deep transverse

sulcus; truncation of metathorax with a deep longitudinal groove; tegulae shining, red-brown, not punctured; wings rather dusky, especially at tips, minutely but conspicuously hairy; nervures and stigma dark brown, second submarginal cell narrow; legs dark red-brown, anterior tibiae and tarsi ferruginous; abdomen with a decided constriction between first and second segments; first segment only moderately narrowed at base; first two segments piceous, first with very large close punctures, second with large and small punctures on its anterior half, extreme base greenish; remaining segments greenish, pruinose with a short pubescence, their hind margins testaceous; antennae dark, flagellum ferruginous beneath at apex.

♂.—Length about 6 mm.; similar to ♀, but narrower, especially the abdomen; antennae much longer, flagellum dark at apex; anterior femora, tibiae and tarsi entirely bright ferruginous; second abdominal segment with large punctures like first; fourth ventral abdominal segment emarginate.

Hab.—Chapada; 4♂, 1♀; January, December.

Corynura (*Corynuropsis*) *sublata* n. sp.

♀.—Length about 8 mm., more robust than *C. darwini*, with the first abdominal segment broader; eyes somewhat more parallel; mesothorax more decidedly purplish; wings perhaps a little browner; supraclypeal area more or less coppery red.

Hab.—Chapada, 1 ♀; December. Perhaps only a variety of the last, but it is larger and seems distinct. The pleura is roughened, and has also sparse shallow punctures. In *C. darwini* the second abdominal segment is conspicuously wider than the first, widening from its base to its hind margin; in *C. sublata* the second segment has nearly parallel sides, and is very little wider than the first.

Augochlora callichroma n. sp.

♀.—Length about 5 mm.; head and thorax brilliant golden green; legs honey-color; *abdomen pale ferruginous* with dark-brown blotches, small at sides of first segment, large at sides of second, covering all of third except a variable patch on disk, and also occupying the whole of fourth and fifth segments, so that the hind portion of the abdomen is dark brown; *at each extreme side of segments 2 to 5, quite at the base, is a clear yellow triangle*, with its apex directed mesad; *clypeus with a broad apical yellow band*, which sends a projection upward in the middle line; mandibles yellow,

ferruginous at ends; labial palpi 4-jointed, the last joint smallest; antennæ dark brown above, yellow beneath, the scape long and slender; mesothorax with very numerous minute punctures; scutellum sculptured like mesothorax; basal area of metathorax microscopically tessellate, the lines mostly running in a transverse direction; abdomen impunctate; *hind spur of hind tibiæ pectinate, with only three teeth*; tegulæ pale testaceous; wings faintly dusky at tips; nervures and stigma dark brown; first recurrent nervure not quite interstitial with the second transverso-cubital, being just the least before it.

Hab.—Chapada, December, January; five examples. This may be compared with *A. nana* Smith and *A. festivaga* Dalla Torre, but it is quite distinct by the yellow markings on the abdomen and other characters. It has a certain superficial resemblance to the genus *Nomioides*.

Augochlora beatissima n. sp.

♀.—Length 5 mm.; head cordate, shining yellowish-green; eyes only shallowly emarginate; clypeus with strong scattered punctures, its anterior half testaceous, its lower margin with a fringe of orange hairs; supraclypeal area smooth and shining, with a very few punctures; mandibles yellowish, dark at apex and extreme base; scape piceous, flagellum dull orange-testaceous, except at base; thorax brilliant bluish-green, *the mesothorax and scutellum purple*; the hind margin of the mesothorax very narrowly, the margins and a central band of the scutellum, golden; tubercles yellow; tegulæ testaceous, yellow at base; mesothorax and scutellum minutely lineolate, with very sparse weak punctures; basal area of metathorax not at all defined, minutely transversely lineolate; pleura with scattered short white hairs; legs reddish-brown, more or less dark; anterior femora apically, anterior tibiæ and tarsi, chrome yellow; hind spur of hind tibia pectinate; wings dusky; nervures and stigma very dark brown; lower inner angle of third submarginal cell a trifle greater than a right angle; *abdomen piceous*, scantily hairy posteriorly, the hind margins of the second and third segments broadly dark ferruginous.

Hab.—Chapada, January; one ♀. A beautiful little thing.